

AN
E S S A Y
ON THE
RHUS TOXICODENDRON,
PUBESCENT^{is} POISON OAK,
OR
S U M A C H,
WITH CASES SHEWING IT'S EFFICACY IN THE CURE OF
PARALYSIS,
AND OTHER DISEASES OF EXTREME DEBILITY.

BY JOHN ALDERSON, M. D.

Hinc Genæ pendulæ tremulæque Manus.
PLIN.

Sæpe Venenum
Vergebant; nunc dant aliis solertius ipsi.
LUCRET.

HULL;

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TO
JOHN WIDDRINGTON, Esq.

OF HAUXLEY,

IN THE

County of Northumberland,

PRESIDENT of the LITERARY and PHILOSOPHICAL
SOCIETY at NEWCASTLE,

THIS ESSAY IS, WITH SINCERE REGARD,

INSCRIBED

BY

The AUTHOR.

HULL, Dec. 31, 1793.

A distinguishing feature of the present times, in a medical point of view, is the prevalence of nervous disorders, and a great increase of paralytic affections. Their origin is not difficult to be ascertained. A determination appears to pervade all ranks, to call forth into immediate action all the resources of existence, by an employment of the most powerful agents ; and, in the gratification of a moment, to risque their whole stock of nervous energy. To such inordinate movements, kept up by a repeated use of the most active stimulants, may we justly look for the cause of that derangement, which physicians have to encounter under the multiplied forms of nervous debility.

B

Various

Various chemical, pneumatic, and mechanical operations, it is well known, are constantly going forward in the human body : and when any of these is too much accelerated, or precipitately urged, the machine itself is destroyed, or is rendered useless. Strongly incited to animal gratifications, men become insensible to the condition of their present existence, which, so far from implying an incessant series of pleasures, in many cases seems to produce the highest enjoyments by preceding pain; thus inculcating upon human creatures the necessity of temperance, and, in many instances, the utility of self-denial. However, as was said, but few attend to the admonitions of their animal constitution. They aim at acquiring what Nature, more provident than they, has prohibited to be attained ; and by a lavish use of wine, spirits, or laudanum, endeavour to procure to themselves the power of perpetual enjoyment. They bid defiance to the warnings

warnings of experience in the fate of others : and solicitous only to appear replete with spirit and animation in the eyes of those with whom they associate, (who probably have recourse to the same incitements) they continue to urge on the processes of life, till some part of the apparatus gives way, and they suddenly feel all the symptoms of a ruined constitution, not to be repaired by the utmost efforts of medical skill. Hence proceed that train of nervous symptoms, which no less impede the operations of the mind, than occasion painful bodily sensations : sensations so acute, as to drive the unhappy victims into the hands of daring empirics, to whose pretended skill they too often sacrifice those lives and fortunes, which ought to have been devoted to the good of their connections.

In the prosecution of my subject, I shall endeavour carefully to avoid every thing
that

that has the appearance of abstract speculation. I wish only to announce what, I conceive, will prove a benefit to the public, in alleviating some of the most distressing disorders, that are incident to the human frame. I will simply relate what has taken place under my own observation. I will not attempt to account for the *modus operandi* of the plant, which is the subject of the present essay ; nor take upon me to decide whether it acts by renewing the irritability of the system, or only by giving energy to the natural powers : nor shall I presume to determine whether the nerves, acting as conductors of electricity, are, by its means, made capable of transmitting a larger quantity of this subtile fluid through the whole frame, as Aurum Musivum, when applied to the rubber of an electrical apparatus, enables the cylinder to accumulate a much larger quantity of that agent—It is

my intention only, by the relation of facts, to establish the use of this powerful drug in those disorders, which usually attend upon an enervated constitution. As the plant is not to be found in our *Materia Medica* at present, I shall, as briefly as possible, describe it, give it's history, and relate the cases in which I have successfully employed it; in hopes that the faculty will be induced to make a fair trial of it, and, if found worthy of further notice, that they will furnish the world with the result of their observations.

My first acquaintance with the subject of this essay began while I was examining, about four years ago, the plants in the Nursery Grounds at Cottingham. I was told by the proprietor, of the wonderful effect of the Poison Oak; that, if touched by the fingers, and not immediately washed off, the acrimony it imparts would be

retained for a long time ; that should a person accidentally touch his eyelids, or any part of the body where the skin usually corrugates, whilst the virulence of the deleterious particles thus contracted continues unimpaired, a swelling and troublesome itching would come on, and continue for some time ; and that even some of his men had suffered so much as to lose such parts of the skin by sphacelation, as the acrid juice had touched. This determined me to make further enquiries into it's powers ; and I soon after saw in the Analytical Review (to the conductors of which I beg leave to make my acknowledgements) some account of experiments made in France, with the *Rhus Radicans*, to which this plant is closely allied, by Monf. Fresnoi ; from which it appeared, that he had given the distilled water and extract of this plant, in cases of paralysis of the lower extremities, with success.

This

This information induced me to hope, that the Sumach I now possessed, might be exhibited with equal advantage, in the same and similar complaints: and though, in the form of distilled water and infusion I was not successful, yet the event of the cases subjoined, in which I have given it in substance, has made me ample amends. I must, however, confess, that it's use has not been uniformly attended with complete success. Having always advised extreme caution in it's first exhibition, it has required a greater length of time to produce the desired effects, than the general impatience, which, I apprehend, all medical men have to combat with in their practice, will allow; an impatience continually encreased by the bold advertisers of specifics for the cure of every disease.

I have not found that an attempt has at any time been made in this country, to ascertain, by experiments, the power of the

Toxicodendron, as a medicine. In France it seems to have been made the subject of enquiry for some time; for Monsieur Fontana, speaks of the many celebrated writers, † who have considered it as a most virulent poison. The experiments however, which he made upon animals, and has related, are not necessary to be introduced here, since I hold all experiments on animals as insignificant, and irrelevant to the effects of any medicine on the human subject. And those made on himself go to shew merely the manner in which it affected the skin, and seem to have terrified * him from any external exhibition.

RHUS

† “ Que les Ecrivains les plus celebres ont communément regardé comme un poison tres puissant, quoique quelques Physiciens modernes ne l'aient pas trouvé tel pour certains Animaux.” *Fontana.*

* “ Mais jai été forcé d'abandonner, des le commencement mes recherches sur cette plante, parceque j'ai eu le malheur de m' en poisonner moimeme par trois fois de suite, avec ses feuilles.” *Fontana.*

RHUS TOXICODENDRON,*

PUBESCENT POISON-OAK,

OR,

SUMACH.

RHUS. *Lin. Gen. Pl.* 369. PENTAN-
DRIA TRIGYNIA, *Flores*
inferi.

Cal. 5. *partitus.* *Petala* 5. *Bacca* 1. Sperma.

Juss. Gen. Pl. p. 369.

Tournef. 381.

SeCTio ** foliis ternatis.

RHUS *Toxicodendron* foliis ternatis :
foliolis petiolatis angulatis pube-
scentibus,

* For the following botanical description of the TOXICODENDRON, I am much indebted to my truly ingenious friend, A. H. HAWORTH, Esq. late of Cottingham, now of Little Chelsea, whose indefatigable industry in investigating and critical acumen in distinguishing plants, I have frequently witnessed.

fcntibus, caule radicante, *Lin. Sp. Pl.* 381. *Syst. Veg.* ed. *Murr.* p. 293. *Syst. Veg. Lichf. Soc.* v. 1. p. 236. *Syst. Nat.* ed. 13. *Gmel. Tom.* 2. 494. *Ait. Hort. Kew.* v. 1. p. 367. *Walter Flo. Carolin.* p. 255. *Gaert. de Fr. et Sem. Cent.* 3. t. 44. f. 5. *Bulliard. Herb. Franc.* t. 143. *Gron. Virg.* 149.

RHUS foliis ternatis : foliolis petiolatis angulatis pubescentibus. *Clayt. Flo. Virg.* 46.

RHUS *Toxicodendron Hill's Hort. Kew.* p. 453.

TOXICODENDRON. 2. (*pubescens.*) foliis ternatis : foliolis ovatis inciso-angulatis pubescentibus. *Mill. Gard. Dict.* ed. 6? *Mill. Gard. Cal.* ed. 14. octavo. p. 166.

TOXICODENDRON tryphyllum folio
sinuato pubescente. *Tournef.*
Inst. 611.

TOXICODENDRON 2. *Boerh. Ind.*
Hort. Batt. 1727. 2. p. 229.

HEDERA Virginiensis trifolia. *Park.*
Theat. 679. f. 5.

HEDERÆ Trifoliæ Canadensi affinis
Planta, Peregrina, arbor venenata
quorundam. *H. R. Par.* 84.

HEDERÆ Trifoliæ Canadensi affinis, fur-
recta, Arbor Tinctoria, virginiana
multis. *Pluken Alm.* 181. H.

EDERA Trifolia Canadensis. *Corn. Can.*
96. t. 97. *Barr. Icon.* 228.

VITIS Canadensis. *Muntin Phytogr.* t. 60.
ARBOR

ARBOR Trifoliata venenata virginiana,
 folio hirsuto. *Raj. Hist.* 1779.

THE Pubescent Poison-Oak or Sumach, is a deciduous shrub of moderate growth, rising to the height of about four feet, it is covered with a greyish coloured somewhat striated bark, which is usually marked with minute spots, or glandular appearances, not greatly unlike the effect of an insect, they have also a distant resemblance to some of the smallest species of *Sphæria*, for like *Sphæriæ* they seem to arise from the wood, and finally cause a sort of bursting or opening of the bark, immediately over them equal to their own size, they further resemble *Sphæriæ* in being largest on the older and more stunted shoots, particularly in the winter season ; but in all likelihood they are the common excretory ducts of the plant, whose fluid being excessively acrid, may possibly require more
 capa-

capacious outlets, than shrubs of a milder juice.

The lower shoots, on and near the ground, in moist shady situations, which the plant most affects, trail considerably like the *Rhus radicans* Linnæi, (smooth rooting Poison-Oak or Sumach) and have like that shrub, the property of sending down radicles into the earth, by which the plant admits of great increase, in any of the winter months.

In such situations, however, I have not seen it produce seeds so readily, as in drier and more pinching places, where it looses in a great degree, it's radicating principle, grows more stiff and robust, and produces annual crops of pale yellow striated berries.

There is a remarkable instance of this kind, (the singularity of which induces me

D

to

to mention it) now existing in a *wall*, in the Phyfic Garden of the Company of Apothecaries at Chelsea, out of a chink in the side of which, and near the ground, grows a strong plant of this *Rhus*, that has prospered there ever since the time of the celebrated Miller, and which Mr. Fairbairn, the Company's present gardener, obligingly assured me, was what Miller called the second species of *Toxicodendron*, in his Gardener's Dictionary; it is, in all probability, the identical plant from which the description in that well known work was made; it seeds annually, but none of it's lower shoots exhibit the least radicating propensity, although other plants of the same kind, in the shady parts of the same garden, have that quality in great perfection, but I believe they rarely produce seeds; so much do local circumstances affect and alter the most permanent and distinguishing characters of vegetables.

I be-

I believe it is pretty generally known to Gardeners, and others concerned in the pleasant and instructive employment of horticulture, that many other fibrous plants, which, like the *Rhus Toxicodendron*, possess the power of encreasing themselves in any considerable degree by their roots, have that property materially lessened, when the place they grow in happens to be dry and poor, for nature has chiefly allotted them rich and moist habitations, and, with her usual care, constructed their constitutions accordingly; the alteration such plants undergo, in such a soil, is doubtless in the direction of their juices, which (being fewer) appear to pass by the lower and less noble parts, (they had before rendered luxuriantly radicant or prolific) and mount upwards by a natural and almost instinctive impulse, to feed and mature, with collected force, the infant germs which they had before too sparingly supplied with nourishment.

Thus Nature checked by art or accident, in any customary channel of renewing her works, kindly searches out and perfects another, that she may not be disappointed in the multiplication of her productions, for

“ _____ each moss,

- “ Each shell, each crawling insect, holds a rank,
- “ Important in the plan of Him who fram'd
- “ This scale of Beings ; holds a rank, which lost
- “ Would break the chain, and leave a gap behind
- “ Which Nature's self wou'd rue.”

I am not acquainted with any common plant, that more abundantly exemplifies the above doctrine, than the Lilly of the Valley, *Convallaria majalis* Lin. which is well known to all who possess a garden, to flower freely, and increase amazingly by the root, in a moist north border, yet few, I fancy, have seen it produce perfect seeds in that situation, notwithstanding the vigour of it's growth ; but when it is planted and confined in a garden pot, and it's increase by

by the root consequently checked, it will frequently produce good seeds.

Vinca major et minor, greater and lesser Periwinkle, *Tussilago Petasites*, Butter Burr, and many other plants, as remarkable for the sterility of their seeds, as their great increase by roots, might, in all probability, experience a similar effect, if under similar circumstances; their supposed sterility therefore, should seem to result chiefly from the peculiarity of their situation and constitutions, and not from any real defect in the formation of all, or any of their parts of fructification, as has sometimes been ingeniously conjectured by botanists and others; but, to return to the *Rhus Toxicodendron*,

The leaves are alternate and three'd, and stand upon remarkable long petioles, the lateral leaflets are usually supported on very short

short petioles, which frequently loose themselves by a kind of dilatation, in the substance of the leaflets; the terminal leaflet has often a footstalk half an inch long or upwards: all the leaflets are dull green, have a drooping posture, and an unpleasant aspect, they are oval-angulate and nervose, with a kind of undulated margin, which sometimes forms distant tooth-like crenatures. The young wood-buds, petioles, and the nerves on the undersides of the leaflets, are furnished with a very visible degree of pubescence, on which account I have ventured to give the plant the English name of Pubescent Poison Oak, or Sumach, for the purpose of distinguishing it from the *Rhus radicans* Lin. which has constantly smooth leaves and shoots.

The flowers are produced in June, July, and August, on short, crowded axillary racemi, which are paniculate, and in a state
of

of nature, dioecious. In our specimens, however, (which were cultivated luxuriant ones, and the only ones which we could procure in a state of fructification) a few of the flowers were hermaphrodite, and had an encreased number of parts, particularly, a minute six cleft calyx, six small lance-oval whitish, rather striated, petals; and six short stamina, supporting as many antheræ.

When not rendered unnaturally luxuriant by cultivation, the male flower consists of a minute calyx with five shallow clefts, a corolla of five small petals, and five stamina which support as many antheræ, and the germen in the female flower is roundish, and when a little magnified, appears somewhat bottle-shaped, and supports a short stylus, which is crowned with three very small stigmata.

The

The fruit or seed arrives at maturity in England about the month of October and November, it is a round, dry, pale-yellow striated berry, which is somewhat scariose, and nearly the size of a small pea, and encloses one hard compressed end-nicked kernel, which has a thick furrowed mealy covering.

The germination of the seed, I am sorry to add, I have had no opportunity of observing.

The *Rhus Toxicodendron* is a native of North America, it has been introduced into England ever since the year 1640, and was cultivated in this country as a curious shrub in the time of Parkinson, who figures it in his Theatre.*

* See Parkinson's *Theatrum Botanicum* and Aiton's *Hortus Kewensis*.

I shall conclude this long account of so common a shrub, by observing, that my specimens did not in all points accord with those preserved in the Herbarium of the great Linnæus, which were very obligingly twice compared with mine, by the present learned and well known possessor of that inestimable treasure; my specimens are larger in all their parts, their leaflets are less undulate, and possessed of somewhat longer footstalks than those of Linnæus, the lateral leaflets of which are nearly sessile, but his specimens are said to have been gathered wild in North America, by Kalme, and mine were the luxuriant produce of young plants, in the strong moist loam of a Yorkshire nursery, * which circumstances, I humbly trust, sufficiently account for the above-mentioned disparity.

* The nursery of Messrs. Phillipson and Scales, at Cottingham, near Hull, in Yorkshire.

A short account of cases in which it has been employed, will enable the reader to judge of it's power as a medicine.

The following case is inserted as drawn up by my ingenious friend Mr. B——, an eminent surgeon in this neighbourhood, who paid the greatest attention to the exhibition of the medicine, and has related, in a clear and interesting manner, the gradual recovery of his own wife.

CASE I.

Mrs. B——, aged 38, always enjoyed remarkable good health, till about eight years ago, at which time she complained of a disorder in her bowels, which she described to feel as if the bowels had lost their sensation, and that a cold wind seemed to rise up the œsophagus. As she was costive, two ounces of the Ol. Ricini were given at four doses, which having no effect, stronger purgatives were administered, but without producing a stool; after
which

which the smoke of tobacco was thrown up, the warm bath applied, a dose of calomel given, and a blister put upon the belly. At length an evacuation was obtained; and from the large quantity of cathartic remedies used, the bowels now took on the other extreme, and a violent purging ensued.— She now complained of a pricking pain on the right side of the abdomen, which went off upon her voiding by stool a piece of a large plumb stone, one side of which was worn as sharp as the edge of a knife. After this she was frequently troubled with obstinate constipations of the bowels, and obliged to have recourse to purgative medicines. In the year 1789, she had two fits, which, I believe, were epileptic; but, as I happened not to see her in either of them, I cannot be certain. In the month of September, she was seized with pains in her hands and feet, which were supposed to be gouty; and when these went off, she
lost

lost entirely the use of the extensor muscles of the wrists, and soon after those of the feet, which was followed by the loss of the extensors of the fingers and toes. A tumour now arose upon the metacarpal bones of each hand, which seemed a swelling either of the periosteum or bone itself, and had greatly the appearance of a scrophulous affection, The tumours seemed sometimes likely to suppurate, but about the end of the year 1790, they gradually disappeared. The hands now looked livid, and the extensor muscles upon the arms and hands wasted and shrivelled; her feet felt like logs of wood, and the fingers and toes were contracted from the action of the flexor muscles; she could not walk without help, and when she attempted it, always complained of something drawing her backwards. During this time, she took a variety of volatile, cardiac, and tonic medicines, but without any good effect. In the month
of

of September, 1791, Dr. ALDERSON was consulted, and advised her to take the TOXICODENDRON. Six grains of the powdered leaves of that plant were infused in eight ounces of boiling water, a table spoonful to be given three times a day. The whole of this was taken without any sensible effect, except a slight pricking sensation in the feet and hands :

Oct. 3d, She took one fourth of a grain of the powdered leaves made into a bolus with Conf. Cort. Aurant. twice a day.

4th, The same ; the pricking sensation continues, and the arms, to the ends of the fingers, feel as if warm water was running down them.

5th, Medicines continued three times a day.

6th, The same. In the evening, had an

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irregular spasmodic fluttering in the toes.

Oct. 7th, Medicines continued. Was agreeably surpris'd to find she could extend her fingers and toes a little. Her hands a little swelled, and her feet and ancles much more so. She has, in a great measure, recovered the use of the extensor pollicis of the right hand, and that of the left in a smaller degree; has also lost the dead hard sensation in her finger ends, which was always her constant attendant.

8th, Medicines continued.

9th, One third of a grain ter die.

10th, The same. Walked up stairs without help, her hands also stronger and better, but the extensors of the wrists still inactive.

11th, The same.

12th, Took

Oct. 12th, Took half a grain ter die. Begins to walk tolerably well, and can use her hands better, the extensor, adductor, and abductor muscles of the thumbs, having recovered their action.

15th, Three grains were made into four boluses, and one taken three times a day. At night the sensation, as if hot water was running down the arms, very troublesome, with the pricking feel in the fingers.

17th, One grain ter die.

30th, Takes one grain and a half ter die; and this day perceived that she had recovered the use of the extensor muscles of the wrists.

She continued the medicine, gradually increasing the dose to four grains ter die, for some time longer. It seemed to act as a

gentle aperient, and frequently, when the large doses were taken, occasioned a slight vertigo, with a pain across the forehead, and a nausea for about half an hour after taking it. She has now left off the medicine twelve months, has entirely recovered the use of her hands, and walks a mile or two very well ; but the muscles of the feet are not so well recovered as those of the hands, and she always lifts the feet very high when she walks ; which may be owing to a remembrance that in her former state, if she attempted walking, and met with the smallest obstacle, a fall on the face was generally the consequence.

Barton, July 25, 1793.

CASE II.

GREG, mariner, complained of the loss of one side, which he attributed to falling asleep upon the deck, after being exhausted
by

by fatigue during a gale of wind. I ordered him half a grain of the powdered leaves of the TOXICODENDRON, three times a day. On the second day, he felt an unusual twitching, or convulsive motion, in the arm and leg affected; and when I saw him on the Monday following, he could, without any assistance, bring the diseased leg across the other, and had much more use of his arm. He continued his medicine a week longer, when, finding himself so far recovered, that he could be employed as a pilot on the river, he was content not to compleat his cure, lest it should subject him to be impressed. He has continued in much the same state for some time past, having gotten more use of his limbs than he ever expected. It is but right to observe, that during two years previous to his application to me, every other means had, in vain, been employed, to restore the action of his leg and arm.

CASE

CASE III.

Mr. B—, surgeon, aged 47, after having endured a complication of ills, hæmoptysis, jaundice, mesenteric obstruction, and general atrophy, lost the total use of all his limbs ; and even his mental faculties underwent a similar paralysis. All his powers of ratiocination were suspended, and he was reduced to a state nearly as helpless as that of a child only six months old. In this situation I gave him the **TOXICODENDRON**, half a grain three times a day, which, in the course of a week, improved his appetite, and removed the habitual costiveness to which he had long been liable. The dose was gradually increased to one grain, three times a day. It produced some twitching across the abdomen, with irregular or convulsive motion in the limbs ; and when the nervous influence seemed to pass to the extremities, it excited in the brain such a sensation of pain, as made him frequently
exclaim

exclaim most violently : but when any one asked him where his pain was, he answered, he could not mention any particular place, but that all his limbs were, as if stretched forcibly. This was more especially the case after sleep.

The dose was gradually increased to three grains four times a day, and he has now taken it for three months. His brain has recovered its wonted functions ; his stomach and bowels do their office more completely than for years ; he rests without opium, though for a long time in the constant habit of taking it ; his animal spirits are wonderfully invigorated ; and although he has not yet acquired the perfect use of his limbs, they seem to be recovering their tone, and I have every reason to hope, that he will, in time, be restored to the full enjoyment of life.

CASE

CASE IV.

GEORGE FORD, ship carpenter, aged 24, of a strong athletic make, and full habit of body, was admitted into the Hull General Infirmary, on Wednesday the 13th of November, 1793, for a paralytic affection, which had deprived him of the use of his right side ; his recollection was so impaired, that he could not give any account of the attack himself, but his wife informed me, that, for a week before he lost the use of his limbs, he had, at times, complained of a dull pain in his head, and numbness in his right hand and foot ; that, by the advice of some old woman, he had been blooded on the Monday, and that upon going out of doors soon afterwards, he was suddenly seized with hemiplegia. In which state he was admitted into the Infirmary, on the Wednesday following.

A vomit was given him soon after his admission, which was followed the next day by

by a warm purgative, and volatile and stimulant medicines for the course of the first week ; but finding that I was not likely to gain any ground from the usual plan, and being desirous of trying the power of the *TOXICODENDRON* in a recent case, I ordered him half a grain of the powdered leaves of this plant in pills, three times a day ; on the second day, after the exhibition of this medicine, he felt a sudden convulsive twitching, or involuntary motion in certain muscles of the affected side ; from that moment he found he had the same motion at will ; every succeeding day he felt some muscle or other convulsively moved, and it was always remarked, by the other patients in the same ward, that he possessed the power of voluntarily employing all those muscles that had been once convulsively affected in consequence of the *TOXICODENDRON*. He regularly pursued the medicine, and gradually increased it to one grain

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every

every four hours, taking care always to add to the dose, till he found some convulsive action was produced.

In the course of three weeks, in which time every injured muscle had felt the influence of this powerful drug, he regained the free and perfect motion of his leg and arm; and recovered the full enjoyment of his mental faculties, which had been equally affected from the first attack.

December 24, 1793.

LATELY PUBLISHED, BY THE SAME AUTHOR,

AN ESSAY ON
C O N T A G I O N .

PRICE TWO SHILLINGS.



